AMENDMENTS IN THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claims 1-10 (canceled)

Claim 11 (withdrawn): A method of modulating an immune response in an individual, comprising administering to the individual the composition of claim 7 in an amount sufficient to modulate the immune response.

Claim 12 (withdrawn): A method according to claim 11, wherein the modulation comprises stimulating production of a Th1-associated cytokine.

Claim 13 (withdrawn): A method according to claim 11 wherein the modulation comprises reducing production of a Th2-associated cytokine.

Claim 14 (withdrawn): A method according to claim 11, wherein the modulation comprises suppressing production of antigen-specific antibodies.

Claim 15 (withdrawn): A method of modulating an immune response in an individual, comprising administering to the individual the composition of claim 8 in an amount sufficient to modulate the immune response.

Claim 16 (withdrawn): A method according to claim 15, wherein the modulation comprises stimulating production of a Th1-associated cytokine.

Claim 17 (withdrawn): A method according to claim 15, wherein the modulation comprises reducing production of a Th2-associated cytokine.

Claim 18 (withdrawn): A method according to claim 15, wherein the modulation comprises suppressing production of antigen-specific antibodies.

Claim 19 (withdrawn): A method of modulating an immune response in an individual, comprising administering to the individual the composition of claim 9 in an amount sufficient to modulate the immune response.

Claim 20 (withdrawn): A method according to claim 19, wherein the modulation comprises stimulating production of a Th1-associated cytokine.

Claim 21 (withdrawn): A method according to claim 19 wherein the modulation comprises reducing production of a Th2-associated cytokine.

Claim 22 (withdrawn): A method of modulating an immune response in an individual, comprising administering to the individual the composition of claim 10 in an amount sufficient to modulate the immune response.

Claim 23 (withdrawn): A method according to claim 22, wherein the modulation comprises stimulating production of a Th1-associated cytokine.

Claim 24 (withdrawn): A method according to claim 22, wherein the modulation comprises reducing production of a Th2-associated cytokine.

Claim 25 (withdrawn): A method of treating an allergic condition in an individual, comprising administering a composition comprising the population of claim 2 and a pharmaceutically acceptable excipient, said composition administered in an amount sufficient to palliate the allergic condition.

Claim 26 (withdrawn): A method according to claim 25, wherein production of a Th1-associated cytokine is stimulated.

Claim 27 (withdrawn): A method for reducing antigen-stimulated IgE production in an individual, comprising administering the composition of claim 8 in an amount sufficient to reduce IgE production stimulated by the antigen in the individual.

Claim 28 (withdrawn): A method for reducing antigen-stimulated IgE production in an individual, comprising administering the composition of claim 10 in an amount sufficient to reduce IgE production stimulated by the antigen in the individual.

Claim 29 (withdrawn): A method for treating an IgE-related disorder in an individual, comprising administering the composition of claim 8 in an amount sufficient to reduce IgE production and treat the disorder in the individual.

Claim 30 (withdrawn): A method for treating an IgE-related disorder in an individual, comprising administering the composition of claim 10 in an amount sufficient to reduce IgE production and treat the disorder in the individual.

Claim 31 (withdrawn): A method for stimulating Th1 lymphocytes in an individual, comprising administering the composition of claim 7 in an amount sufficient to stimulate Th1 lymphocytes in the individual.

Claim 32 (withdrawn): A method according to claim 31, wherein production of a Th1-associated cytokine is stimulated.

Claim 33 (withdrawn): A method for stimulating Th1 lymphocytes in an individual, comprising administering the composition of claim 8 in an amount sufficient to stimulate Th1 lymphocytes in the individual.

Claim 34 (withdrawn): A method for stimulating Th1 lymphocytes in an individual, comprising administering the composition of claim 9 in an amount sufficient to stimulate Th1 lymphocytes in the individual.

Claim 35 (withdrawn): A method according to claim 34, wherein production of a Th1-associated cytokine is stimulated.

Claim 36 (withdrawn): A method for stimulating Th1 lymphocytes in an individual, comprising administering the composition of claim 10 in an amount sufficient to stimulate Th1 lymphocytes in the individual.

Claim 37 (withdrawn): A method for suppressing Th2 lymphocytes in an individual, comprising administering the composition of claim 7 in an amount sufficient to suppress Th2 lymphocytes in the individual.

Claim 38 (withdrawn): A method according to claim 37, wherein production of a Th2-associated cytokine is suppressed.

Claim 39 (withdrawn): A method for suppressing Th2 lymphocytes in an individual, comprising administering the composition of claim 8 in an amount sufficient to suppress Th2 lymphocytes in the individual.

Claim 40 (withdrawn): A method for suppressing Th2 lymphocytes in an individual, comprising administering the composition of claim 9 in an amount sufficient to suppress Th2 lymphocytes in the individual.

Claim 41 (withdrawn): A method according to claim 40, wherein production of a Th2-associated cytokine is suppressed.

Claim 42 (withdrawn): A method for suppressing Th2 lymphocytes in an individual, comprising administering the composition of claim 10 in an amount sufficient to suppress Th2 lymphocytes in the individual.

Claims 43-62 (canceled)

Claim 63 (Currently amended): A population of conjugate molecules, said conjugate molecules comprising an allergen and a polynucleotide comprising an immunostimulatory sequence (ISS), wherein said ISS comprises a 5'-cytosine guanine-3'dinucleotide, wherein the polynucleotide is greater than 8 and less than about 200 nucleotides in length and wherein the extent of conjugation in the population provides an average of at least 5.5 ISS-containing polynucleotides per allergen molecule.

Claim 64 (canceled)

Claim 65 (withdrawn): The population of claim 63, wherein said immunostimulatory sequence comprises the sequence 5'-T, C, G-3'.

Claim 66 (withdrawn): The population of claim 63, wherein said immunostimulatory sequence comprises the sequence 5'-purine, purine, C, G, pyrimidine, pyrimidine-3'.

Claim 67 (withdrawn): The population of claim 66, wherein said immunostimulatory sequence comprises a sequence selected from the group consisting of GACGCT, GACGTC, GACGTT, GACGCC, GACGCU, GACGUC, GACGUU, GACGUT, GACGTU, AGCGTT, AGCGCT, AGCGTC, AGCGCC, AGCGUU, AGCGCU, AGCGUC, AGCGUT, AGCGTU, AACGTC, AACGCC, AACGTT, AACGCT, AACGUC, AACGUU, AACGCU, AACGUT, AACGTU, GGCGTT, GGCGCT, GGCGTC, GGCGCC, GGCGUU, GGCGCU, GGCGUC, GGCGUT, and GGCGTU.

Claim 68 (withdrawn): The population of claim 66, wherein said immunostimulatory sequence comprises the sequence 5'-purine, purine, C, G, pyrimidine, pyrimidine, C, C-3'.

Claim 69 (withdrawn): The population of claim 68, wherein said immunostimulatory sequence comprises a sequence selected from the group consisting of GACGCTCC, GACGTCCC, GACGTTCC, GACGCCCC, AGCGTTCC, AGCGCTCC, AGCGTCCC, AGCGCCCC,

AACGTCCC, AACGCCCC, AACGTTCC, AACGCTCC, GGCGTTCC, GGCGCTCC, GGCGTCCC, and GGCGCCCC.

Claim 70 (withdrawn): The population of claim 69, wherein said immunostimulatory sequence comprises a sequence selected from the group consisting of
5'-TCATCTCGAACGTTCCACAGTCA-3' (SEQ ID NO:3),
5'-TGACTGTGAACGTTCCAGATGA-3' (SEQ ID NO:4),
5'-TGACTGTGAABGTTCCAGATGA-3' (SEQ ID NO:6) where B is 5-bromocytosine.

Claim 71 (previously presented): The population of claim 63, wherein said ISS comprises the sequence 5'-purine, purine, C, G, pyrimidine, pyrimidine, C, G-3'.

Claim 72 (previously presented): The population of claim 71, wherein said ISS comprises a sequence selected from the group consisting of GACGCTCG, GACGTCCG, GACGCCCG, GACGTTCG, AGCGCTCG, AGCGTTCG, AGCGTCCG, AGCGCCCG, AACGTCCG, AACGCCCG, AACGTTCG, AACGCTCG, GGCGTTCG, GGCGCTCG, GGCGTCCG, and GGCGCCCG.

Claim 73 (withdrawn): The population of claim 72, wherein said immunostimulatory sequence comprises a sequence selected from the group consisting of
5'-TGACTGTGAACGTTCGAGATGA-3' (SEQ ID NO:1),
5'-TGACCGTGAACGTTCGAGATGA-3' (SEQ ID NO:2),
5'-TCCATAACGTTCGCCTAACGTTCGTC-3' (SEQ ID NO:5)
5'-TGACTGTGAABGTTCGAGATGA-3' (SEQ ID NO:7) where B is 5-bromocytosine, and
5'-TGACTGTGAABGTTBGAGATGA-3' (SEQ ID NO:8) where B is 5-bromocytosine.

Claim 74 (previously presented): A composition comprising the population of claim 63 in a pharmaceutically acceptable excipient.

Claim 75 (Currently amended): A population of conjugate molecules, said conjugate molecules comprising an allergen and a polynucleotide comprising an immunostimulatory sequence (ISS), wherein said ISS comprises a 5'-cytosine guanine-3' dinucleotide, wherein the polynucleotide is greater than 8 and less than about 200 nucleotides in length and wherein the extent of conjugation in the population provides a ratio of (i) average mass of ISS-containing polynucleotide to (ii) average mass of allergen of at least about 45 to about 40.

Claim 76 (withdrawn): The population of claim 75, wherein said immunostimulatory sequence comprises the sequence 5'-cytosine, guanine-3'.

Claim 77 (withdrawn): The population of claim 75, wherein said immunostimulatory sequence comprises the sequence 5'-T, C, G-3'.

Claim 78 (withdrawn): The population of claim 75, wherein said immunostimulatory sequence comprises the sequence 5'-purine, purine, C, G, pyrimidine, pyrimidine-3'.

Claim 79 (withdrawn): The population of claim 78, wherein said immunostimulatory sequence comprises a sequence selected from the group consisting of GACGCT, GACGTC, GACGTT, GACGCC, GACGCU, GACGUC, GACGUU, GACGUT, GACGTU, AGCGTT, AGCGCT, AGCGTC, AGCGCC, AGCGUU, AGCGCU, AGCGUC, AGCGUT, AGCGTU, AACGTC, AACGCC, AACGTT, AACGCT, AACGUC, AACGUU, AACGCU, AACGUT, AACGTU, GGCGTT, GGCGCT, GGCGTC, GGCGCC, GGCGUU, GGCGCU, GGCGUC, GGCGUT, and GGCGTU.

Claim 80 (withdrawn): The population of claim 78, wherein said immunostimulatory sequence comprises the sequence 5'-purine, purine, C, G, pyrimidine, pyrimidine, C, C-3'.

Claim 81 (withdrawn): The population of claim 80, wherein said immunostimulatory sequence comprises a sequence selected from the group consisting of GACGCTCC, GACGTCCC, GACGTTCC, GACGCCCC, AGCGTTCC, AGCGCTCC, AGCGTCCC, AGCGCCCC,

AACGTCCC, AACGCCCC, AACGTTCC, AACGCTCC, GGCGTTCC, GGCGCTCC, GGCGTCCC, and GGCGCCCC.

Claim 82 (withdrawn): The population of claim 81, wherein said immunostimulatory sequence comprises a sequence selected from the group consisting of
5'-TCATCTCGAACGTTCCACAGTCA-3' (SEQ ID NO:3),
5'-TGACTGTGAACGTTCCAGATGA-3' (SEQ ID NO:4),
5'-TGACTGTGAABGTTCCAGATGA-3' (SEQ ID NO:6) where B is 5-bromocytosine.

Claim 83 (previously presented): The population of claim 75, wherein said ISS comprises the sequence 5'-purine, purine, C, G, pyrimidine, pyrimidine, C, G-3'.

Claim 84 (previously presented): The population of claim 83, wherein said ISS comprises a sequence selected from the group consisting of GACGCTCG, GACGTCCG, GACGCCCG, GACGTTCG, AGCGCTCG, AGCGTTCG, AGCGTCCG, AGCGCCCG, AACGTCCG, AACGCCCG, AACGTTCG, AACGCTCG, GGCGTTCG, GGCGCTCG, GGCGTCCG, and GGCGCCCG.

Claim 85 (withdrawn): The population of claim 84, wherein said immunostimulatory sequence comprises a sequence selected from the group consisting of
5'-TGACTGTGAACGTTCGAGATGA-3' (SEQ ID NO:1),
5'-TGACCGTGAACGTTCGAGATGA-3' (SEQ ID NO:2),
5'-TCCATAACGTTCGCCTAACGTTCGTC-3' (SEQ ID NO:5)
5'-TGACTGTGAABGTTCGAGATGA-3' (SEQ ID NO:7) where B is 5-bromocytosine, and
5'-TGACTGTGAABGTTBGAGATGA-3' (SEQ ID NO:8) where B is 5-bromocytosine.

Claim 86 (previously presented): A composition comprising the population of claim 75 in a pharmaceutically acceptable excipient.

Claim 87 (canceled)

Claim 88 (withdrawn): The population according to claim 63, wherein the antigen is a viral antigen.

Claim 89 (withdrawn): The population according to claim 75, wherein the antigen is a viral antigen.

Claims 90-94 (canceled)

Claim 95 (previously presented): The population according claim 63, wherein the allergen is Amb a 1.

Claim 96 (previously presented): The population according to claim 63, wherein the allergen is selected from the group consisting of a pollen allergen, an insect allergen, a mammal allergen, a nut allergen, a crustacean allergen and a fungal allergen.

Claim 97 (previously presented): The population according to claim 63, wherein the allergen is selected from the group consisting of a ragweed allergen, a grass allergen, a birch allergen, a cedar allergen, a juniper allergen, a dust mite allergen, a cockroach allergen, a cat allergen, a dog allergen, a peanut allergen, a wheat allergen and a latex allergen.

Claim 98 (canceled)

Claim 99 (previously presented): The population according claim 75, wherein the allergen is Amb a 1.

Claim 100 (previously presented): The population according to claim 75, wherein the allergen is selected from the group consisting of a pollen allergen, an insect allergen, a mammal allergen, a nut allergen, a crustacean allergen and a fungal allergen.

Claim 101 (previously presented): The population according to claim 75, wherein the allergen is selected from the group consisting of a ragweed allergen, a grass allergen, a birch allergen, a cedar allergen, a juniper allergen, a dust mite allergen, a cockroach allergen, a cat allergen, a dog allergen, a peanut allergen, a wheat allergen and a latex allergen.

Claims 102-105 (canceled)

Claim 106 (previously presented): The population according to claim 63, wherein the allergen is a polypeptide.

Claim 107 (previously presented): The population according to claim 75, wherein the allergen is a polypeptide.

Claim 108 (currently amended): A population of conjugate molecules made by the process comprising: combining a polynucleotide comprising an immunostimulatory sequence (ISS) and allergen at a ratio of about 17 molar equivalents of the polynucleotide to about 1 molar equivalent of the allergen whereby conjugate molecules comprising the polynucleotide and allergen are formed, wherein the polynucleotide is greater than 8 and less than about 200 nucleotides in length and wherein the ISS comprises a 5'-cytosine guanine-3' dinucleotide.